

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: US/10,045,063A

Source: FW16

Date Processed by STIC: 11-29-04

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 11/29/2004

PATENT APPLICATION: US/10/045,063A

TIME: 10:51:21

Input Set : A:\021123-0284981.ST25.txt

Output Set: N:\CRF4\11292004\J045063A.raw

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3 <110> APPLICANT: ALTENBUCHNER, Josef
4      MATTES, Ralf
5      PIETZSCH, Markus
6      SYLDATK, Christoph
7      WIESE, Anja
8      WILMS, Burkard
10 <120> TITLE OF INVENTION: RECOMBINANT L-N-CARBAMOYLASE FROM ARTHROBACTER AURESCENS AND
11      METHOD OF PRODUCING L-AMINO ACIDS THEREWITH
13 <130> FILE REFERENCE: 021123-0284981
15 <140> CURRENT APPLICATION NUMBER: US 10/045063A
16 <141> CURRENT FILING DATE: 2002-01-15
18 <150> PRIOR APPLICATION NUMBER: US 09/285055
19 <151> PRIOR FILING DATE: 1999-04-02
21 <150> PRIOR APPLICATION NUMBER: DE 198 14 813.5
22 <151> PRIOR FILING DATE: 1998-04-02
24 <160> NUMBER OF SEQ ID NOS: 5
26 <170> SOFTWARE: PatentIn version 3.3
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 1239
30 <212> TYPE: DNA
31 <213> ORGANISM: Arthrobacter aurescens
33 <400> SEQUENCE: 1
34 gtgaccctgc agaaagcgca agcggcgcgcg attgagaaag agatccggga gctctcccgg      60
36 ttctcggcag aaggccccgg tggtaccggg ctgacctaca ctccagagca tgccgcccgg      120
38 cgggaaacgc tcattgcggc tatgaaagcg gccgccttga gcgttcgtga agacgcactc      180
40 ggaaacatca tcggccgacg tgaaggcact gatccggagc ttcctgcgat cgcggtcggg      240
42 tcacacttcg attctgtccg aaacggcggg atgtttgatg gcactgcagg cgtggtgtgc      300
44 gcccttgagg ctgcccgggt gatgctggag aacggctacg tgaatcggca tccatttgag      360
46 ttcacgcgca tcgtggagga ggaagggggc cgcttcagca gtggcatgtt gggcgggcgg      420
48 gccattgcag ggttggtcgc cgacagggaa ctggactctt tggttgatga ggatggagtg      480
50 tccgttaggc aggcggctac tgccctcggc ttgaagccgg gcgaactgca ggctgcagcc      540
52 cgctccgceg cggacctgcg tgcttttatc gaactacaca ttgaacaagg accgacctc      600
54 gagcaggagc aaatagagat cggagttgta acctccatcg ttggcggtcg cgcattgcgg      660
56 gttgccgtca aaggcagaag cgaccagcc ggacacacc ccatgcacct gcgccaggat      720
58 gcgctggtac ccgccgtct catggtgagg gaggtcaacc gggttcgtcaa cgagatcgcc      780
60 gatggcacag tggctaccgt tggccacctc acagtggccc ccggtggagg caaccaggtc      840
62 ccggggggagg tggacttcac actggacctg cgttctccgc atgaggagtc gctccgcgtg      900
64 ctgatcgacc gcatctcggt catggtcggc gaggtcgctt cccaggccgg tgtggctgcc      960
66 gatgtggatg aatttttcaa tctcagcccg gtgcagctgg ctccctaccat ggtggacgcc      1020
68 gttcgcgaag cggcctcggc cttgcagttc acacaccggg atatcagcag tggggcgggc      1080
70 cacgactcga tgttcacgc ccaggtcacg gacgtcggaa tgggtttcgt tccaagccgt      1140
72 gctggccgga gccacgttcc cgaagaatgg accgatttcg atgaccttcg caaaggaact      1200
74 gaggttgtcc tccgggtaat gaaggcactt gaccggtaa      1239

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77 <210> SEQ ID NO: 2
78 <211> LENGTH: 412
79 <212> TYPE: PRT
80 <213> ORGANISM: Arthrobacter aurescens
82 <400> SEQUENCE: 2
84 Met Thr Leu Gln Lys Ala Gln Ala Ala Arg Ile Glu Lys Glu Ile Arg
85 1 5 10 15
88 Glu Leu Ser Arg Phe Ser Ala Glu Gly Pro Gly Val Thr Arg Leu Thr
89 20 25 30
92 Tyr Thr Pro Glu His Ala Ala Ala Arg Glu Thr Leu Ile Ala Ala Met
93 35 40 45
96 Lys Ala Ala Ala Leu Ser Val Arg Glu Asp Ala Leu Gly Asn Ile Ile
97 50 55 60
100 Gly Arg Arg Glu Gly Thr Asp Pro Glu Leu Pro Ala Ile Ala Val Gly
101 65 70 75 80
104 Ser His Phe Asp Ser Val Arg Asn Gly Gly Met Phe Asp Gly Thr Ala
105 85 90 95
108 Gly Val Val Cys Ala Leu Glu Ala Ala Arg Val Met Leu Glu Asn Gly
109 100 105 110
112 Tyr Val Asn Arg His Pro Phe Glu Phe Ile Ala Ile Val Glu Glu Glu
113 115 120 125
116 Gly Ala Arg Phe Ser Ser Gly Met Leu Gly Gly Arg Ala Ile Ala Gly
117 130 135 140
120 Leu Val Ala Asp Arg Glu Leu Asp Ser Leu Val Asp Glu Asp Gly Val
121 145 150 155 160
124 Ser Val Arg Gln Ala Ala Thr Ala Phe Gly Leu Lys Pro Gly Glu Leu
125 165 170 175
128 Gln Ala Ala Ala Arg Ser Ala Ala Asp Leu Arg Ala Phe Ile Glu Leu
129 180 185 190
132 His Ile Glu Gln Gly Pro Ile Leu Glu Gln Glu Ile Glu Ile Gly
133 195 200 205
136 Val Val Thr Ser Ile Val Gly Val Arg Ala Leu Arg Val Ala Val Lys
137 210 215 220
140 Gly Arg Ser Asp His Ala Gly Thr Thr Pro Met His Leu Arg Gln Asp
141 225 230 235 240
144 Ala Leu Val Pro Ala Ala Leu Met Val Arg Glu Val Asn Arg Phe Val
145 245 250 255
148 Asn Glu Ile Ala Asp Gly Thr Val Ala Thr Val Gly His Leu Thr Val
149 260 265 270
152 Ala Pro Gly Gly Gly Asn Gln Val Pro Gly Glu Val Asp Phe Thr Leu
153 275 280 285
156 Asp Leu Arg Ser Pro His Glu Glu Ser Leu Arg Val Leu Ile Asp Arg
157 290 295 300
160 Ile Ser Val Met Val Gly Glu Val Ala Ser Gln Ala Gly Val Ala Ala
161 305 310 315 320
164 Asp Val Asp Glu Phe Phe Asn Leu Ser Pro Val Gln Leu Ala Pro Thr
165 325 330 335
168 Met Val Asp Ala Val Arg Glu Ala Ala Ser Ala Leu Gln Phe Thr His
169 340 345 350

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172 Arg Asp Ile Ser Ser Gly Ala Gly His Asp Ser Met Phe Ile Ala Gln  
 173           355                           360                           365  
 176 Val Thr Asp Val Gly Met Val Phe Val Pro Ser Arg Ala Gly Arg Ser  
 177           370                           375                           380  
 180 His Val Pro Glu Glu Trp Thr Asp Phe Asp Asp Leu Arg Lys Gly Thr  
 181 385                           390                           395                           400  
 184 Glu Val Val Leu Arg Val Met Lys Ala Leu Asp Arg  
 185                           405                           410

188 &lt;210&gt; SEQ ID NO: 3

189 &lt;211&gt; LENGTH: 17

190 &lt;212&gt; TYPE: DNA

191 &lt;213&gt; ORGANISM: Artificial Sequence

193 &lt;220&gt; FEATURE:

194 &lt;223&gt; OTHER INFORMATION: Radioactively marked oligonucleotide

197 &lt;220&gt; FEATURE:

198 &lt;221&gt; NAME/KEY: misc\_feature

199 &lt;222&gt; LOCATION: (12)..(12)

200 &lt;223&gt; OTHER INFORMATION: n is A, G, C or T

202 &lt;400&gt; SEQUENCE: 3

1--&gt; 203 atgttygayg tnathgt

17

206 &lt;210&gt; SEQ ID NO: 4

207 &lt;211&gt; LENGTH: 30

208 &lt;212&gt; TYPE: DNA

209 &lt;213&gt; ORGANISM: Artificial Sequence

211 &lt;220&gt; FEATURE:

212 &lt;223&gt; OTHER INFORMATION: Primer

214 &lt;400&gt; SEQUENCE: 4

215 agaacatatg tttgacgtaa tagttaagaa

30

218 &lt;210&gt; SEQ ID NO: 5

219 &lt;211&gt; LENGTH: 28

220 &lt;212&gt; TYPE: DNA

221 &lt;213&gt; ORGANISM: Artificial Sequence

223 &lt;220&gt; FEATURE:

224 &lt;223&gt; OTHER INFORMATION: Primer

226 &lt;400&gt; SEQUENCE: 5

227 aaaaggatcc tcacttcgac gcctcgta

28

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 11/29/2004  
PATENT APPLICATION:    US/10/045,063A      TIME: 10:51:22

Input Set : A:\021123-0284981.ST25.txt  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 12 ✓

**VERIFICATION SUMMARY**

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Input Set : A:\021123-0284981.ST25.txt

Output Set: N:\CRF4\11292004\J045063A.raw

L:203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0